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OXC 1928

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26 JUL 1961

**MEMORANDUM FOR: Acting Chief, DPD**

**SUBJECT: Chase/Training Aircraft for OXCART**

1. This memorandum contains recommendations for the approval of the Acting Chief, DPD. Such recommendations are contained in paragraph 6.

2. A requirement exists for supersonic century series aircraft in support of Project OXCART which will provide the following:

a. Chase of A-12 aircraft primarily during the flight test and transition phases of approximately one year duration.

b. Proficiency training of A-12 pilots throughout the project life span. It is estimated that 80 to 120 century series aircraft flying hours per month will be required.

3. Investigation of all century series aircraft presently in the USAF inventory has eliminated the F-100, F-102, F-105, and F-106 aircraft from consideration. The comparison herein concerns itself with the F-101B and F-104D, both two seat model aircraft.

**4. OPERATIONAL SUMMARY:**

a. The F-101B offers many advantages as a training vehicle in addition to sufficing for the chase role. The F-101B affords practice in twin throttle manipulation and engine out condition. Fuel tank monitoring is similar to the A-12. Greater range and

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endurance would provide more flexibility of operations. In addition, all OXCART pilots will be RF-101 qualified upon completion of the Shaw Air Force Base school.

b. The F-104D has the greater potential for a chase aircraft with a faster rate of climb and a higher top speed of Mach 2.0. However, the speed regime of primary interest and concern in A-12 chase is above Mach 2.5, which downgrades this speed advantage. Engine operation, afterburner and variable nozzle are much like the A-12. Checkout and/or retraining of pilots would be required with F-104D aircraft.

##### **5. MATERIEL SUMMARY:**

a. The F-101B is available in large numbers in the USAF inventory. Fewer maintenance problems are associated with the F-101B with the USAF currently maintaining an operationally ready rate of more than 75%. The J-57 engine is far more reliable than the J-79 engine of the F-104D and is presently requiring only one-fourth the maintenance effort. Better logistics support is available for both the aircraft and the engine. Over-all maintenance and fuel costs are less by \$14.00 per flying hour. A Pratt-Whitney technical representative would be available for assistance at [REDACTED] and qualified military maintenance personnel are available for assignment. The operational requirement of 80 to 120 flying hours per month can be supported with four (4) F-101B's, which is one to two less aircraft required than with F-104D's.

b. The F-104D is extremely limited in the USAF inventory with most of these aircraft presently assigned to Air National Guard units and NATO/SEATO countries. USAF logistics support is rated fair with a current operationally ready rate, of only 65%. The J-79 engine is still plagued with maintenance problems with an average engine overhaul time of 160 hours versus 2,520 hours for the J-57 engine. Qualified military personnel would not be available to maintain the F-104D without extensive retraining. Additionally, special provisions would have to be made for a GE technical representative. It would require five to six F-104D's to support the same operational requirements which could be provided by only four F-101B's.

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c. Military manning is considered preferable to civilian manning for the maintenance of the F-101B. An annual savings of approximately \$4,000.00 per man would be realized, which would result in a total annual savings of approximately \$72,000.00 for a contingent of 18 personnel.

6. RECOMMENDATIONS:

It is recommended that:

a. F-101B aircraft be used in support of Project OXCART training requirements.

b. F-104D aircraft be used in support of Project OXCART chase requirements.

c. Chase/training aircraft be located at [REDACTED] in order to be responsive to operational requirements.

d. F-101B aircraft be maintained by military personnel.

e. F-104D aircraft be maintained by LAC personnel.

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[REDACTED]  
Lt. Colonel USAF  
Chief, Special Projects Branch, DPD

Attachments - 2

Appendix I - Operations Data

Appendix II - Materiel Data

The recommendations contained in paragraph 6. are approved:

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[REDACTED]  
Colonel USAF  
Acting Chief, DPD-DD/P

8 AUG 1961

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DPD/SPB/ [REDACTED]

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